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Post natal care in Bubi district deserves more attention

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Abstract

Objectives: To establish whether, where and when women in Bubi District attend Post Natal Care (PNC), the factors that influence attendance, the quality of services and traditional or cultural practices related to PNC.
Design: A cross sectional survey.
Setting: Bubi District, Matebeleland North Province, Zimbabwe.
Subjects: A multistage sample of 200 women with a child aged three to 12 months, convenience samples of 96 women with a child zero to 12 months who had attended PNC; 112 elderly women from the community and 10 nurses.
Main Outcome Measures: PNC attendance, place and timing of PNC visit, quality of PNC, knowledge and attitudes towards PNC and traditional practices
Results: 61% of the women had attended PNC. Factors associated with non-attendance were higher age and parity, home delivery and long distance between home and health facility. Almost all women attended PNC in a district health facility. Eighty three percent were seen at six weeks *post partum*. Forty percent of the mothers and 36.1% of the babies had received a full examination, but 37.7% and 4.9% respectively had not been examined at all. Nine of the 10 nurses interviewed were not aware of a PNC policy.
Knowledge on PNC among the women in the community was poor. Some potentially beneficial and harmful traditional practices related to mother and baby were identified.
Conclusion: PNC attendance in this study was almost three times the attendance reported through the routine National Health Information System, but lower than elsewhere in Zimbabwe. The quality of the services was rather poor and more geared towards the baby than the mother. Both health workers and the community need to better understand the importance of PNC. Because the first two weeks *post partum* is the period with highest morbidity and mortality, women should be advised to make a PNC visit within 14 days, or whenever they have problems, rather than at six weeks. All health facilities, including the mobile teams should be able to offer PNC. There is need to develop an 'evidence-based' PNC policy to guide nurses on what to offer to both mother and baby, also taking into consideration common traditional practices.

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Introduction

Maternal mortality is highest in the *post partum* period. In a meta analysis of maternal deaths, Li *et al* show that more than 60% of maternal mortality takes place in the *post partum* period, both in the United States of America and in developing countries.[1] Almost 50% of the deaths take place within one day post delivery (from *post partum* haemorrhage and eclampsia) and 80% within two weeks (from secondary *post partum* haemorrhage and sepsis).

The number of problems reported by women in the *post partum* period is high. Zishiri found in his study of 245 women post delivery in Gweru, 82% of whom attended PNC at two weeks and 63% at six weeks,[2] that 58% of the mothers reported at least one morbid condition within the first 24 hours post delivery, the dominant complaint being pain, while 56% had complaints at two weeks, with the majority having some form of infection. This is not different from what has been found in both Asia and Great Britain.[3]

A PNC consultation is seen as a way to improve the general welfare of mother and baby through identification of complications post delivery and during the first six to eight weeks *post partum.*[3] PNC offers an opportunity for health education, for example on baby care or family planning. Table I shows the activities that nurses in Zimbabwe are expected to perform for the new mother and

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her baby during the first *post partum* visit, which is usually timed at six weeks.[4] Through the Zimbabwe National Health Information System PNC visits are counted, but only visits six weeks *post partum* are tallied.

Table I: What should be done during PNC visit; source: MCH/FP course module (1992).[4]

To the Mother	To the Baby
• Head to toe examination	• Head to toe examination exclude infection and defects
More specific:	**More specific:**
• Check mucous membranes	• Anterior fontanelle — pulsations, bulging?
• Breast/nipples for lumps, cracks, secretions	• Eyes for discharge, jaundice
• Palpation abdomen, uterus well contracted?	• Nose for polyps and discharge
• Vulva, cleanliness, any discharges or sores	• Mouth, exclude abnormalities, breastfeeding?
• Episiotomy or tears, check for healing	• Chest, breast formation
• VE, locchia (rubra, alba)	• Abdomen, any masses
• BP	• Cord stump
• Weight	• Genitalia boys:descend of testes, urine production girls: vulva, urine production
• Advise on FP if not on any method	• Lower and upper limbs, symmetry, extra digits
• Educate on care of baby and other identified areas	• Weigh
	• Immunize

Early examination of a newborn baby is emphasised again in the Zimbabwe programme of identification of 'At Risk' babies: those babies that are suspected to have suffered brain damage are to be monitored and if necessary referred to the Rehabilitation services.[5] If mothers do not come for a PNC visit, their next expected contact with the health services is when the baby is three months old and needs further vaccinations.

A study was conducted in Bubi District as part of training in Health Systems Research.[6] The main objectives were to establish whether, where and when women attended PNC, the quality of care offered by the health services as well as cultural and traditional practices, and to determine factors that influence PNC attendance in Bubi District.

The District Health Executive in Bubi District, Matebeleland North had noted that in 1998 the number of PNC visits made up only 22.3% of the number of Antenatal Care (ANC) bookings. Bubi District, which has a population of 47 000 (1999), borders Bulawayo and has its growth point at a distance of 60 km. An earlier study had established that about 40% of the women in Bubi District deliver at home, 40% within the district health facilities and 20% in health facilities outside the district.[7] The district has one District Hospital, three Rural Health Centres (RHC), two commercial clinics and two Mobile Clinics which offer immunisation, ANC, Family Planning (FP) and PNC services to the community. The district health institutions were recently upgraded under the Family Health Project II which puts emphasis on Safe Motherhood of which PNC is a component.

Materials and Methods

A cross sectional descriptive study was carried out in March and April 1999. Qualitative and quantitative data were collected from both the community and health workers' perspective. Variables studied were: available options for PNC, timing of PNC visit, accessibility to health facility, quality of service, knowledge of the community on PNC, the community's views and attitudes towards PNC and cultural/traditional practices related to PNC.

Multistage sampling was used and the district was stratified into four areas: communal area, resettlement area, farms and mines. Proportional and random selection of villages was done in the communal area (12 villages) and resettlement area (four villages) and the farms (four). The only two mines with a health facility were conveniently included and two other mines randomly selected.

The study population was 200 women with a child aged three to 12 months, who were interviewed using a questionnaire, 10 in each village, except in the farms and mines where five per farm or mine were interviewed. They were conveniently selected with the aid of community health workers. Sixteen Focus Group Discussions (FGD) were held using discussion guide. The FGD sites were conveniently selected: four in the communal areas, two in resettlement areas, one on a farm and one in a mine. Eight involved 96 women with a child zero to 12 months who had attended PNC and eight other FGD were with 112 elderly women: Traditional Midwives (TMs), Village Community Workers (VCWs) and other elderly women within that particular community.

Nurses from the Mother and Child Health Department in the hospital, the Mobile Teams and the three RHCs, in total 10, were given a self-administered questionnaire.

Permission to carry out the study was obtained from the District Health Executive and local community leaders and informed consent was further obtained from all respondents before they were interviewed. None refused.

FGD data were analysed manually. Epi Info version 6 was used for analysis of data from the interviews. Odds ratios and the Chi-square test were used to show differences.

Results

The socio-demographic variables of the 200 women with babies aged three to 12 months who were interviewed are presented in Table II. Ages ranged from 16 to 45 years with a mean age of 29 years and a standard deviation of 6.5. A quarter (24.9%) were teenagers below the age of 20 years, 22.5% of the women were single and the majority of these (60.0%) were teenagers. Forty four percent had delivered at home.

The working experience of the 10 nurses who filled in the questionnaire ranged from three to 30 years. Seven were midwives, all but one had received some MCH/FP training.

The ages of the elderly women, TMs and VCWs who participated in the FGD ranged from 35 to 77 years. Most women were married and most from the Ndebele tribe. In the mines about one third were Shona and Malawi women.

Table II: Background variables of women with a child three to 12 months old.

Variable	Response Type	No	%
Marital status	Married/Living together	149	74.5
(n=200)	Single	45	22.5
	Widowed/Divorced	6	3.0
Education	Primary Education	123	61.5
(n=200)	Secondary Education	75	37.5
	Nil	2	1.0
Respondent's occupation	Unemployed	197	98.5
(n=200)	Employed	3	1.5
Spouse's occupation	Unemployed	69	46.3
(n=149)	Labourer	55	36.9
	Contract Worker	14	9.4
	Professional	11	7.4
Parity	1	65	32.5
(n=200)	2	46	23.0
	3	34	17.7
	4	21	10.5
	5+	34	17.0
Place of delivery	Home	88	44.0
(n=200)	Hospital	69	34.5
	Rural Health Centre	40	20.0
	Others	3	1.5

Where and When do Women in Bubi District go for *Post Natal* Care?

One hundred and twenty two women with a child three to12 months old (61.0%) had attended PNC. Of the 88 women with a home delivery, 43.2% attended PNC and 75.0% of those who had delivered in a health facility (OR) 3.95 (95% confidence interval (CI) 2.08 to 7.54), p < 0.001). Almost half of the respondents (49.2%) had made a PNC visit to a RHC in the district, the district hospital ranked second with 33.9%, the Mobile Team saw 9.8% while 3.0% had gone to a private clinic and 4.1% were seen outside the district.

The great majority (82.8%) were seen at six weeks and only 11.6% during the first two weeks *post partum*. The timing of the visits was the same regardless of the place of delivery.

PNC attendance in women below 30 years was higher (63.5%) than in older women (44.4%, OR 2.21, 95% CI 1.03 to 4.73, p=0.025), see Table III. Women of parity less than four attended PNC more often (65.5%) compared to those of higher parity (49.1%, OR 1.97, 95% CI 1.00 to 3.88, p=0.034) . Of the women of 30 years and older who were *para* four or more, only 42.3% had attended PNC.

There was no significant statistical relationship with level of education, marital or employment status and PNC attendance, but there was evidence that women who live closer to health facilities have greater chances of receiving PNC services than those who live further away: 70.1% of those living less than 10 kms from a health facility attended PNC against 48.2% living at a distance of 10 kms or more

Table III: PNC attendance by age group, parity, level of education and distance to nearest health facility.

Age Group n=190	PNC Attendance Status Yes	No	Total	Odds Ratio and p-value
<20 years	31 (66.0%)	16 (34.0%)	47	OR 2.21 95% CI 1.03-4.73
20-29 years	70 (62.5%)	32 (37.5%)	112	p=0.038
30-49 years	20 (48.8%)	21 (51.2%)	41	
Parity n=200				
1	44 (67.7%)	21 (32.3%)	65	OR 1.97 95% CI 1.00-3.88
2	27 (58.7%)	19 (41.3%)	46	p=0.034
3	24 (70.6%)	10 (29.4%)	34	
4+	27 (49.1%)	28 (50.9%)	55	
Level of education n=200				
Nil	1	1	2	no significant difference
Primary	71 (57.7%)	52 (42.3%)	123	
Secondary	50 (66.7%)	25 (33.3%)	75	
Distance home to nearest Health Facility n=200				
0-<5km	45 (73.8%)	16 (26.2%)	61	OR 2.52, 95% CI 1.35-4.72
5-<10km	37 (66.1%)	19 (33.9%)	56	p=0.002
10-55km	40 (48.2%)	43 (51.8%)	83	

(OR 2.52, 95% CI 1.35 to 4.72, p = 0.002). This difference remained after stratification for employment status, except in the five to10 km group, where those who had employed spouses had an attendance of 78.4%.

Type and Quality of PNC Services.

The 122 women who had attended PNC were asked to describe what was done to them and their babies during the PNC visit. Forty six (37.7%) mothers and six (4.9%) babies had not been examined at all, regardless of their place of delivery. Forty percent of the mothers had received a full 'head to toe' examination, including a vaginal examination. The others mentioned a vaginal examination only (22.1%), weight and/or blood pressure measurements (25.4%), or family planning advise (10.7%). With regards to examination of the baby, 44.2% had only been weighed and 36.1% had undergone a general examination. Eleven percent had been given a BCG at the PNC visit.

Out of 191 women who had attended ANC during their pregnancy 47.1% had been given information about PNC services, mainly by nurses (62.2%) but also by other mothers (40.0%) and friends (10.0%).

Eighty two percent of the PNC attenders said they were satisfied with the services. The main reason for dissatisfaction was that "nothing was done to them". In those who had nothing done to them but were still satisfied the response was linked to the good general reception, handling and attitudes of health workers.

In the self administered questionnaire the 10 nurses were asked whether their health facility had a PNC policy, only one nurse reported the existence of such a policy. Nine answered that they had enough information on PNC. Six indicated that they consider the best time for a PNC visit to be at two weeks, because that is when most complications occur. The other four nurses recommended a visit at six weeks, because this is the period when a woman's body would have returned to the pre-pregnancy state and would

Table IV: Cultural PNC practices related to mother and reasons for practice

Cultural Practice	Reasons
Medicinal practices	
— Oral *muti (inkunzane)*	— Has oxytocic effects, is used to expel retained products of conception
— Muti porridge (*umgugudu* or *intolwane*)	— To contract uterus and increase appetite
— Bath perineum, with *umganu*	— To contract uterus and enhance healing of perineum, strengthens perineum muscles
— Marula tree anema (*umganu*)	— As above
— Ingestion of red soil	— For treating after pains
Pre-pregnancy state enhancer	
— Hot compression for abdomen and vulva	— To expel blood
— Tying abdomen	— To restore body shape
Social practices related to activities	
— Mother does not work	— To gain strength
— Mother not allowed to cook for family members for 2 months	— Traditional belief that she is unclean
— Mother does not touch salt and husband's clothes	— Traditional belief that she is unclean
Social practices related to sexual activity	
— Mother kept indoors away from husband for one month	— To prevent early sexual intercourse
— Mother shares room with mother-in-law for 4 months	— To prevent early sexual intercourse
— No sex for 3 to 6 months	— To protect husband from *umvuvu* (unclean discharge)
— Husband sees baby and mother only in the presence of elders	— To prevent early sexual intercourse
Mother's Nutrition	
— Mother is given extra meals (could be anything that she likes)	— To improve mother's health and encourage milk production

Table V: Cultural practices related to new born baby and reasons for practice.

Cultural Practice	Reasons
Medicinal practices	
— Oral *muti* (traditional medicine)	— To protect baby from evil spirits and to strengthen fontaneile
— Smoking fontanelle with *dubha* or other herbs	
— Fontaneile smear with muti at times mixed with mother's milk	— To become strong and avoid startling
— Ashes applied to umbilical cord (pumpkin or sorghum seed used when cord is septic)	— To prevent itching
— *Muti* necklace	— To strengthen fontanelle/bring protection
— Baby, mother and father made to lick muti	— To determine baby's paternity
Protection of baby	
— Kept in doors for one month	— To protect baby from bad spirits and infection/strengthen the baby
— Kept indoors until new moon	— To strengthen the baby's joints
— Beat baby with mother's petticoat	— To strengthen baby, so that when parents resume sex, baby doesn't become a weakling
— Baby made to lick father's sperms	— To strengthen baby
— Warm compresses on head and nose	— To shape baby's head and nose
— Breast milk expressed into eyes, ears, vulva or penis	— To prevent itching of eyes, and in the vulva or penis to prevent prostitution and promiscuity

be the best time for taking a Pap smear and to commence a FP method.

The nurses were asked what services they give during PNC, with reference to mother and baby. Their answers were as follows: Mother: vaginal examination (9/10), health education (8/10), family planning advise (6/10), check on episiotomy/stitches (4/10); Baby:general examination (10/10), immunisation (6/10), check cord (5/10), check BCG scar (6/10).

Knowledge of Community on PNC, their Views and Attitudes towards PNC Services and Traditional Practices.

Elderly women and TMs in the communal and resettlement areas knew more about PNC than those in the mining and farming community, who had very little knowledge on PNC. The same applied to the mothers who were involved in the FGDs. The elderly said there is need to encourage women to attend PNC since that is when problems could be detected and managed early. They urged that women be given Family Planning education during PNC to prevent unwanted pregnancies and that the baby's growth be monitored. TMs recognized *post partum* complications, such as retained placenta, backache, lower abdominal pains and separation of the *symphysis pubis*. They said that they would refer, such cases to a health facility, except backaches for which warm compresses were applied. Before they would refer in the case of a retained placenta, they would ask the mother to blow in a bottle or would put a wooden curved spoon in her mouth to evoke the urge to push. They were confident in claiming that the above methods worked very well.

One group among the 96 mothers with a child zero to 12 months who had attended PNC highlighted that whilst they appreciated that PNC can be useful, most had "nothing done to them" when they went to health facilities and said they were only asked how they felt and asked if they had any problems.

An attempt was made to identify cultural practices that are related to the mother and to the baby. They are listed in Tables IV and V. Most practices were very common in all communities.

Discussion

The 1997 national MCH/FP survey (the results of which were not yet known at the time of study) revealed that nationally 71% of women attended PNC, defined as a visit at any time within the first six weeks after delivery, and 75% in Matebeleland North Province. Hove *et al* found almost 90% PNC attendance in Mashonaland West Province.[8] This study found a much lower coverage of 61.0%, which was however almost three times the coverage reported through the National Health Information System. Some women are missed in the routine reporting, because visits before six weeks are not tallied as PNC visits, 17.0% in this study. The majority of women had made a PNC visit at six weeks. Contrary to what one would expect, PNC attendance was lower in women who had delivered at

home compared to those who delivered in a health facility, confirming again Hove's findings in Mashonaland West Province.[8] It is unfortunate that an opportunity to check both mother and baby is missed at the time when women bring their newborns for BCG vaccination after a home delivery. This may be because the National Health Information System which defines a PNC visit at six weeks influences the nursing staff in not considering an earlier visit as a PNC visit. In fact, a much earlier visit is advisable, since most morbidity and mortality occurs in the first two weeks *post partum.* Liljestrand from the Safe Motherhood Programme of the World Health Organisation recommends a post delivery check up within *three days* after delivery, underlining again that a PNC visit at six weeks is not based on science.[9] Since most women attend ANC, the importance of a *post natal* checkup should be stressed already during pregnancy and especially to those who intend to deliver at home, the older and (grand) multiparous women as well as to the TMs.

Women in this study who had attended PNC were generally satisfied with the services, even in most cases where 'nothing' had been done to them. The TMs and elderly women in the community were also positive. Obviously they only have a vague notion of what to expect during a PNC visit because the services narrated by the mothers as rendered to them and their babies can only be described as inadequate. The health workers seem to consider a PNC visit more often for the purpose of the baby than for the mother and there is a discrepancy between what health workers said they were supposed to do and what the mothers reported. Contrary to ANC, there is no evidence based protocol or policy on PNC for nurses and nurse aides in understaffed clinics to refer to and this is a gap to be filled.

Almost all women had used a district health facility for PNC. Knowing that 20 percent of the women deliver outside Bubi District, this implies that they came back to the district for PNC. Since distance had a negative bearing on PNC attendance, it is important that mobile outreach services, though scarce these days, should offer full PNC services.

A few cultural practices were identified in this study, which might enhance HIV or other sexually transmitted infections, such as making the baby lick the father's sperms or expressing breast milk in baby's eyes. Smearing of ashes on the cord is another harmful practice. Other harmless practices should be adopted by the health services, to make women feel more at home, such as hot compresses and tying of the abdomen or a special nutritious diet.

Conclusion and Recommendations

PNC attendance was found to be lower in Bubi District than elsewhere in Zimbabwe, although three times higher than routine reports showed. Quality of services needs improvement and to focus more on possible maternal problems as well as educating the community on the usefulness of PNC. Home delivery, older age, higher parity and longer distance between home and health facility were associated with non-attendance of PNC.

The following recommendations were made:

- An 'evidence-based' *Post Natal* Care policy to be developed, which addresses both mother and baby and integrates the 'At Risk' approach, for use at all levels of care.
- Women to be advised during ANC, to come for a PNC visit within two weeks post delivery and whenever they experience any problems, with even more emphasis to those who intend to deliver at home.
- Health education to be given on the danger signs in the *post partum* period.
- Health institutions to admit women for at least 24 hours post delivery and for at least 48 hours for those at risk of severe anaemia, sepsis or Pregnancy Induced Hypertension.
- Any first visit by a woman within six weeks *post partum* to be recognised by the health staff as a 'PNC visit' and all agreed services to be offered to both mother and baby.
- Health workers to include PNC in refresher courses for TMs and VCWs and in their health education to the community.
- Potentially beneficial traditional practices should be encouraged, such as hot compresses and a special diet for the newly delivered women, whilst harmful practices should be discouraged.
- Mobile teams to be equipped and instructed to carry out PNC services.

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